

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of manufacturing a segmented fuel cell bipolar separator plate, comprising the following steps:

providing a sheet of material having a fixed width;

passing the sheet through a tool a predetermined distance;

forming a pattern on a central portion of the sheet with the tool to define a segment along the length of the sheet, the pattern including ribs defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet, the central portion positioned between a first outer portion and a second opposed outer portion, the first and second outer portions being free of ribs;

passing the sheet through a tool a predetermined distance; and distance;

repeating the steps of forming the pattern on the sheet and passing the sheet through the tool until the sheet possesses a desired quantity of segments so as to form a segmented fuel cell bipolar separator plate; and

positioning the segmented fuel cell bipolar separator plate in a fuel cell.

2. (Previously Presented) The method of claim 1, wherein the pattern further includes a first mating pair of apertures in the first outer portion of each segment and a second mating pair of apertures in the opposed second outer portion of each segment.

3. (Previously Presented) The method of claim 2, further comprising the steps of:

folding the first outer portion over itself such that the first pair of apertures are aligned with one another to form an inlet for a reactant flow path; and

folding the second outer portion over itself such that the second pair of apertures are aligned with one another to form an outlet for a reactant flow path.

4. (Original) The method of claim 2, wherein the pattern further includes a plurality of dimples in the first and second outer portions such that when the first and second outer portions are folded over upon themselves a fluid flow path is formed within the folded over portions.
5. (Previously Presented) The method of claim 2, wherein the pattern includes at least one additional mating pair of apertures in the first and second outer portions of each segment.
6. (Previously Presented) The method of claim 3, further comprising the steps of securing a seal member on the second side of the sheet proximate a first edge thereof to define an inlet for the reactant flow path; and securing a seal member on the second side of the sheet proximate an opposed second edge thereof to define an outlet for the reactant flow path, each seal member including an aperture aligned with a respective pair of apertures when the seal member is secured to the sheet.
7. (Original) The method of claim 6, further comprising the step of eyeleting the aperture of each seal member to one aperture of the respective pair of apertures with which the seal member aperture is aligned.
8. (Original) The method of claim 7, wherein the pattern further includes a plurality of dimples in the first and second outer portions such that when the seal members are secured to the sheet a fluid flow path is formed between the seal members and the plate.
9. (Previously Presented) The method of claim 6, wherein the pattern includes a dividing rib between adjacent segments, the dividing rib defining a flow channel in fluid communication with the inlet and outlet of the reactant flow path.
10. (Original) The method of claim 1, further comprising the step of forming a coolant flow path within each segment.

11. (Original) The method of claim 10, wherein the coolant flow path is formed by mating two sheets having patterns together, the ribs of one sheet having a height greater than the ribs of the other sheet such that when mated together a plurality of channels extend between the two sheets to form the coolant flow path.

12. (Original) The method of claim 1, wherein the ribs extend substantially perpendicular to the direction the sheet passes through the tool.

13. (Original) The method of claim 1, wherein a portion of each end of the plate is folded over onto itself to form a seal along the respective end of the plate.

Claims 14 - 30. (Cancelled)

31. (Previously Presented) The method of claim 1, further comprising the step of cutting the sheet to a desired length.

32. (Previously Presented) The method of claim 1, further comprising the step of coiling the sheet after the sheet has been passed through the tool.

33. (Previously Presented) The method of claim 1, wherein the pattern further includes at least one aperture in the first outer portion of each segment and at least one aperture in the opposed second outer portion of each segment.